

# **Medical Information Visualization Assistant (MIVA)**

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## **Abstract**

Intensive Care Units (ICUs) are home to many healthcare facilities' most critical and vulnerable patients. They are also home to multiple bedside devices, each offering staggering amounts of patient data. Recognizing that quality care is dependent upon the ability to interpret and respond to patient data quickly and accurately, a team of researchers is changing how doctors and nurses interface with health information.

Dr. Anthony Faiola created the Medical Information Visualization Assistant (MIVA) as a new application that consolidates large sums of patient data into one visual and interactive system. It aids physicians and nurses by allowing them to streamline work processes and ensure accuracy of information. Devices monitoring patients' vitals, such as blood pressure, heart rate and other measures are integrated with MIVA and displayed on a large touch-screen within the ICU. MIVA can also track changes over time. This means physicians can interpret the longitudinal effects of an intervention on patients' health, such as a newly administered drug.

Initial testing of the device has been positive. In a 2006 usability study at the Indiana University School of Medicine and Riley Hospital for Children, physicians using MIVA found it to be faster and more accurate than those in a control group. In this same study, a majority of physicians that interacted with MIVA agreed that the device has the potential to improve critical care decision-making. A patent application has been filed. The research team is continuing to test the device and plan to demonstrate MIVA to potential venture capitalists.